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ABSTRACT

This paper presents the results of a survey titled "Postsecondary Plans of Nevada High School Seniors" that is administered biennially to provide educational planners with information about Nevada high school seniors' postsecondary plans. The survey consists of 43 questions and provides information in six areas: demographic characteristics of seniors; their high school experiences including work experiences; their plans for the year following graduation; their postsecondary education plans; factors important in their choice of a postsecondary institution; and their impressions of the University of Nevada System campuses. Using data from the 1990 survey (4,700 usable responses), qualitative response models (logit specification) were developed to assess the influence of various economic and demographic variables on students' decisions to attend college, enroll in vocational programs, or pursue no postsecondary education. Among the results were the following: (1) the majority of the students in both urban (66.8%) and rural (64%) areas planned to attend college; (2) family income, mother's educational level, sex, and high school grade point average (GPA) all exhibited positive impacts on both rural and urban students' intentions to enroll in college; and (3) the likelihood of college attendance increased as high school GPA increased. Several implications of the study's findings are discussed. Contains 12 references. (GLR)

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AN ANALYSIS OF STUDENT CHARACTERISTICS ASSOCIATED WITH ENROLLMENT IN HIGHER EDUCATION

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AN ANALYSIS OF STUDENT CHARACTERISTICS ASSOCIATED WITH ENROLLMENT IN HIGHER EDUCATION

A survey of "Postsecondary Plans of Nevada High School Seniors" is administered biennially to provide educational planners with information about Nevada high school seniors' postsecondary plans. Using data from the survey, qualitative response models (logit specification) were developed to assess the influence of various economic and demographic variables on students' decisions to attend college, enroll in vocational programs, or pursue no postsecondary education. Such information is vital in developing enrollment projections, financial aid planning, and institutional program decisions. This analysis will be of interest to persons concerned with the influence of student characteristics on intentions to enroll in higher education.

AN ANALYSIS OF STUDENT CHARACTERISTICS ASSOCIATED WITH ENROLLMENT IN HIGHER EDUCATION

INTRODUCTION

Throughout the decade of the 1980's the State of Nevada and the University of Nevada System (UNS), representing all public higher education in the state, have experienced tremendous growth. From 1980 to 1990 the population of the state has grown 60%, while enrollments at the two universities and four community colleges in the state have increased 65%. Planning in this dynamic environment, while essential, has become difficult and has tended to focus on the short-range. Planning for anticipated levels of enrollment on all campuses has consisted of predicting numbers of students based on historical population trends. Prior to 1986, very little information existed that allowed the System or campuses to base enrollment projections on other factors, such as demographic characteristics of students or high school performance.

In 1986, the University of Nevada System Chancellor's Office developed a survey to obtain needed information about high school students and their postsecondary plans. "Postsecondary Plans of Nevada High School Seniors" has been administered to the population of high school seniors on a biennial basis. The questionnaire is designed to provide secondary and postsecondary educational planners with information about high school seniors, their high school experiences, and their postsecondary plans. The survey consists of 43 questions and provides information in six areas: demographic characteristics of seniors, their high school experiences including work experiences, their plans for the year following graduation, their postsecondary educational plans, factors important in their choice of a postsecondary institution, and their impressions of the University of Nevada System campuses.

Descriptive reports from the 1986, 1988, and 1990 high school surveys have provided educational planners in the state valuable information concerning students' intentions to enroll in postsecondary education. These reports have also analyzed students' intentions by demographic characteristics, high school grade point average, and other selected characteristics. Survey findings have supported and strengthened projections that the UNS will continue to serve increasing numbers of students in the near future. Over 60% of 1990 Nevada seniors planned to enroll in postsecondary educational programs the year following their high school graduation, and an additional 20% intended to continue their education at some point in the future. The survey results also indicate that more seniors in 1990, regardless of their race or ethnic background intended to enroll in postsecondary programs than did 1986 seniors; however, there are still significant differences in the intended participation rates of most minority students compared to their Asian and white classmates.

The high school survey data, to this point, have only been used to provide descriptive information. However, the wealth of data available through the survey provide a solid base for further studies. While the existing reports are valuable for describing students intentions, without further study the data could not be used to show the impact of certain student characteristics on their planning decisions. Using data from the 1990 survey and focusing on two geographic areas, logit models were developed to determine the impact of economic and demographic characteristics on three possible postsecondary choices of students: intent to attend college, intent to enroll in a vocational/occupational program, or no intention to seek further education. Probabilities and changes in probabilities were also calculated to provide further information.

LITERATURE REVIEW

Many studies have attempted to identify those factors which influence a student's college enrollment decision process. Several studies have analyzed the impact of geographic and demographic variables upon a student's decision to enroll in college. Braun (1983) found that Kentucky high school students from less affluent counties enroll in college at a lower rate than those from more affluent counties. Jencks (1979) also found that high school students from lower socioeconomic groups attend college less frequently than those from higher socioeconomic status. The size of high school and the availability of guidance and counseling for high school students were identified by Benton (1970) as important factors in a student's decision to enroll in college. In a study of high school students who took the SAT examination, Baird (1984) found that college attendance was primarily related to college entrance examination scores, while sex, ethnic group, and high school performance were less important.

Other studies have been conducted to determine the characteristics of those students who enroll in vocational or technical programs. A study by the U.S. Department of Education (1989) found that of those 1980 high school graduates who had enrolled in any postsecondary education, 12% had completed a vocational Associate of Arts degree or certificate program within four years of high school graduation. A greater proportion of women than men had completed a vocational program (13.4% vs. 9.6%). White and hispanic students were more likely to have completed vocational credentials within four years of high school than were Black or Asian students. Approximately 16% of students from lower socioeconomic status families attended trade or technical schools, compared to 7% of

students from higher status families. In addition, 8% of students had completed vocational credentials where at least one parent had a college education, while 13% had completed where parent's highest level of education is less than a high school diploma. The report concludes that "students who aspire to less than a college education are more likely to earn vocational credentials than those who aspire to a college degree."

Less research has typically focused on students who do not enroll in postsecondary education, however. A study of 1980 high school graduates by the U.S. Department of Education (1986) identified characteristics of such 'terminal degree' students who had not pursued any type of postsecondary education in the two years following high school graduation. Of 1980 graduates, 34% had not attained some form of postsecondary education within two years of graduation. Terminal degree students were more likely to be male, come from large families, and had greater work involvement before high school graduation than students who had enrolled in postsecondary education. Students from lower socioeconomic status were more likely to be terminal degree students, while the parents of terminal degree students had significantly lower education aspirations for their children. Only 11% of high ability students had not enrolled in postsecondary education within two years.

METHODOLOGY

Logit analysis, one type of qualitative response model, has been used to analyze various institutional research issues. St. John (1990) developed logit models to predict the influence of student financial aid on college persistence. The likelihood of graduate student retention was examined by Ott et. al. (1984). Nested multinomial logit was used to analyze college enrollment choice behavior (Weiler, 1987).

Because of the dichotomous nature of a student's postsecondary educational decision, a qualitative response model is appropriate in this analysis. Such a model relates the probability of an event's occurrence to a set of exogenous factors. Probit and logit specifications are two alternative qualitative response models available for analysis of discrete choice. The two methods, similar in form, typically produce similar results (Amemiya, 1981). Because of their similarity, logit analysis was selected for use.

In this analysis, the probability of a students' particular postsecondary educational choice depends upon a vector of explanatory variables associated with student i, X_i, and a vector of unknown parameters ß. The dichotomous random variable y_i is defined as Y_i = 1 if a student indicates a particular postsecondary educational choice, and $Y_i = 0$ otherwise. The probability of a student's postsecondary education choice in the logit model is indicated by:

$$(1)\ P_i = F(X'_i\beta) = \frac{1}{[1 + \exp(-X'_i\beta)]}.$$

Logit coefficients provide the direction of change in probability due to a change in the explanatory variables. In addition to these coefficients, two other measures may be calculated to assist in interpreting logit results: the predicted probability of the dependent variable belonging to a particular category, based on the set of independent variables; and the predicted changes in probabilities that result from changes in independent variables. Probabilities and changes in probabilities were calculated using the methodology discussed by Petersen (1984).

DESCRIPTION OF MODELS

Logit models were developed using maximum likelihood techniques to determine the effects of exogenous variables upon three of a students' postsecondary educational choices: intent to attend college, intent to enroll in a vocational/occupational program, and no intention to seek further education beyond high school. In this analysis, a student's future educational plans were hypothesized to depend upon race, family income, highest level of mother's education, gender, high school grade point average (g.p.a), number of hours worked per week during the senior year, level of satisfaction with the high school experience, and the level of satisfaction with the education planning assistance provided by the high school. The variables used in this analysis are defined in Table 1.

The following model was used to analyze the effect of explanatory variables on students' future educational plans:

$$\begin{aligned}\text{Educational intent} = {} & \beta_0 + \beta_1\text{Race1} + \beta_2\text{Race3} + \beta_3\text{Race4} + \beta_4\text{Race5} \\ & + \beta_5\text{Female} + \beta_6\text{Income2} + \beta_7\text{Income3} + \beta_8\text{Income4} \\ & + \beta_9\text{Mother'sEd2} + \beta_{10}\text{Mother'sEd3} + \beta_{11}\text{Mother'sEd4} \\ & + \beta_{12}\text{GPA1} + \beta_{13}\text{GPA2} + \beta_{14}\text{GPA3} + \beta_{15}\text{Work2} + \beta_{16}\text{Work3} \\ & + \beta_{17}\text{Work4} + \beta_{18}\text{Work5} + \beta_{19}\text{H.S.Satis1} + \beta_{20}\text{H.S.Satis2} \\ & + \beta_{21}\text{H.S.Plan1} + \beta_{22}\text{H.S.Plan2}\end{aligned}$$

Both the dependent and independent variables are qualitative in nature. A reference student was defined to avoid singularity problems, with these reference variables eliminated from the model. The representative student in this analysis is a male Native American, with annual family income of less than $15,000, with mother's highest level of education less than a high school diploma, a high school g.p.a of 'D' or 'F', who did not work during his/her senior year, who was less than adequately satisfied with his/her high school experience, and who was less than adequately satisfied with the college planning assistance provided by the

TABLE 1. Definition of Variables

Variable	Definition
EDUCATIONAL CHOICE VARIABLES:	
COLLEGE	1 if student plans to attend college, 0 otherwise
VOCATIONAL	1 if student plans to enroll in vocational or occupational program, 0 otherwise
NO FUTURE PLANS	1 if student does not intend to seek further education beyond high school, 0 otherwise
EXPLANATORY VARIABLES:	
RACE1	1 if Afro-American/Black, 0 otherwise
RACE2	1 if American Indian, Alaskan Native, 0 otherwise
RACE3	1 if Caucasian/White, 0 otherwise
RACE4	1 if Hispanic, 0 otherwise
RACE5	1 if Asian-American, Oriental, Pacific Islander, 0 otherwise
MALE	1 if male, 0 otherwise
FEMALE	1 if female, 0 otherwise
INCOME1	1 if annual family income is less than $15,000 , 0 otherwise
INCOME2	1 if annual family income is $15,000 - $24,000, 0 otherwise
INCOME3	1 if annual family income is $24,000 - $40,000, 0 otherwise
INCOME4	1 if annual family income is greater than $40,000, 0 otherwise
MOTHER'S ED1	1 if highest level of mother's education is less than a high school diploma, 0 otherwise
MOTHER'S ED2	1 if highest level of mother's education is a high school diploma, 0 otherwise
MOTHER'S ED3	1 if highest level of mother's education is some college, business, or trade school, 0 otherwise
MOTHER'S ED4	1 if highest level of mother's education is a college degree or higher, 0 otherwise
GPA1	1 if student's high school grade point average is 'A', 0 otherwise
GPA2	1 if student's high school grade point average is 'B', 0 otherwise
GPA3	1 if student's high school grade point average is 'C', 0 otherwise
GPA4	1 if student's high school grade point average is 'D' or 'F', 0 otherwise
WORK1	1 if student did not work during senior year, 0 otherwise
WORK2	1 if student worked 10 hours or less per week during senior year, 0 otherwise
WORK3	1 if student worked 11 - 20 hours per week during senior year, 0 otherwise
WORK4	1 if student worked 21 - 30 hours per week during senior year, 0 otherwise
WORK5	1 if student worked more than 30 hours per week during senior year, 0 otherwise
H.S. SATIS1	1 if student more than adequately satisfied with high school experience, 0 otherwise
H.S. SATIS2	1 if student adequately satisfied with high school experience, 0 otherwise
H.S. SATIS3	1 if student less than adequately satisfied with high school experience, 0 otherwise
H.S. PLAN1	1 if student more than adequately satisfied with future education planning assistance provided by high school, 0 otherwise
H.S. PLAN2	1 if student adequately satisfied with future education planning assistance provided by high school, 0 otherwise
H.S. PLAN3	1 if student less than adequately satisfied with future education planning assistance provided by high school, 0 otherwise

high school.

Data for this analysis were obtained from the 1990 survey of Nevada high school seniors. The survey provided information on students' intent to pursue one of five postsecondary educational choices: attend college, enroll in a vocational/occupational program, no intent to seek further education, enroll in job-related classes, and unsure of future educational plans. The first three choices (attend college, attend vocational program, or no intention to seek further education) are analyzed in this paper.

Data were also divided into two geographic areas - an urban area and a rural area. The urban area is the most populous area in Nevada, and is more diverse racially than the rural area. Both the state's largest public community college and the largest public four-year university are located in this urban area. The rural region represents approximately 200,000 residents, and two public community colleges are located within this large geographical area. Approximately 3,400 usable responses were returned from the urban region, while 1,300 were received from the rural area.

The majority of students in each geographic area plan to attend college. In the rural area, 64% of high school seniors intend to pursue a college degree, compared to 66.8% in the urban area. An additional 14.2% of rural students intend to enroll in a vocational/occupational program, while 10.6% of urban students will seek vocational training. Only 5.1% of rural students and 5.2% of urban students do not intend to pursue further education beyond high school. Of the remaining students not discussed in this study, 7.7% of rural students and 7.6% of urban students plan to take job-related classes. Finally, 9.3% of rural students and 9.8% of urban students are unsure of their future plans.

RESULTS

Table 2 contains parameter estimates and t-ratios of the urban and rural logit models for each of three educational choices. For the college enrollment models, most parameter estimates are significant (.05 level) and positive. Fewer parameter estimates are significant in the vocational model and in the model for students who do not intend to seek further education. The McFadden's R^2 statistic for each logit model varies but all are within the expected range (Greene, 1990). Log likelihood ratio test statistics also vary among the models but all are significant at the .001 level, indicating that the models are of significance in identifying those factors that influence students' enrollment choices.

As indicated in Table 2, the impact of numerous explanatory variables on seniors' future college intentions are apparent. Family income, mother's educational level, sex, and high school g.p.a. all exhibit positive significant impacts on both rural and urban students intentions to enroll in college. Working more than 30 hours per week exhibits a negative impact on students' college enrollment plans, however. Rural students who indicated they were adequately or more than adequately satisfied with their high school experience are positively influenced to attend college. Among urban students, all categories of race except for black have a positive effect on college intent, while students who were adequately satisfied with the college planning they received displayed negative impact on attendance.

Geographic differences are evident in examining those variables which influence students' intentions to enroll in a vocational or occupational program (Table 2). In the rural area, the only positive significant influence on vocational enrollment is working more than 21 hours per week. Mother's educational level has a negative impact on vocational

TABLE 2. Maximum Likelihood Estimates and In-Sample Evaluation

	COLLEGE				VOCATIONAL				NO FURTHER EDUCATION			
	RURAL		URBAN		RURAL		URBAN		RURAL		URBAN	
Variable	Parameter Estimate	t-Ratio	Parameter Estimate	t-Ratio	Parameter Estimate	t-Ratio	Parameter Estimate	t-Ratio	Parameter Estimate	t-Ratio	Parameter Estimate	t-Ratio
INTERCEPT	-3.2568*	-4.91	-2.0465*	-5.63	-1.8368*	-2.66	-0.7780	-1.79	0.2310	0.32	-1.3500*	-2.13
RACE1	0.0030	0.01	0.4014	1.38	-0.5550	-0.49	-0.2235	-0.64	1.0404	1.00	0.2278	0.40
RACE3	0.0618	0.21	0.6447*	2.36	-0.0726	-0.20	-0.5234	-1.61	-0.1379	-0.28	0.1778	0.33
RACE4	-0.0431	-0.11	0.7896*	2.61	0.0564	0.12	-0.6324	-1.68	0.2116	0.32	-0.9718	-1.44
RACE5	0.7864	1.34	1.0330*	3.23	-0.1933	-0.27	-1.0007*	-2.36	-33.2600	-0.01	-1.3171	-1.67
FEMALE	0.2705*	1.98	0.3202*	3.91	-0.3075	-1.80	0.0066	0.06	-0.4914	-1.75	-0.7856*	-4.58
INCOME2	0.6068*	2.89	0.4485*	3.48	-0.1339	-0.51	-0.1409	-0.80	-0.6633	-1.69	-0.4980	-1.87
INCOME3	0.5035*	2.89	0.3354*	3.07	0.1043	0.49	-0.1696	-1.12	-1.3286*	-3.32	-0.3234	-1.52
INCOME4	0.8833*	4.87	0.5845*	5.46	-0.2939	-1.25	-0.4455*	-2.88	-0.7415*	-2.11	-0.4271*	-2.06
MOTHER'S ED2	0.4394*	2.04	0.2993*	2.47	-0.2518	-1.00	-0.1782	-1.06	0.1924	0.49	-0.1233	-0.53
MOTHER'S ED3	0.9025*	4.01	0.6659*	5.23	-0.5734*	-2.20	-0.2016	-1.15	-0.6762	-1.48	-0.3729	-1.48
MOTHER'S ED4	1.1578*	4.44	1.1093*	7.26	-1.2057*	-3.47	-0.4744*	-2.20	-0.3624	-0.69	-0.5449	-1.79
GPA1	3.6357*	6.21	2.8533*	10.38	-0.3335	-0.54	-1.5163*	-4.23	-2.5405*	-3.65	-2.4116*	-4.69
GPA2	2.8138*	5.06	1.6270*	7.04	0.3263	0.58	-0.7244*	-2.53	-2.0210*	-3.97	-1.2987*	-3.94
GPA3	1.6468*	2.96	0.6784*	2.97	0.8587	1.55	-0.1912	-0.68	-1.3424*	-2.82	-0.7436*	-2.36
WORK2	-0.2457	-0.96	-0.1657	-0.86	0.4967	1.50	0.0628	0.23	0.6732	1.58	0.2602	0.69
WORK3	0.0572	0.32	0.2930*	2.33	0.4577	1.91	-0.1244	-0.71	-0.3966	-1.04	-0.3133	-1.10
WORK4	-0.3355	-1.76	0.0774	0.68	0.5420*	2.18	-0.1895	-1.16	-0.4201	-1.00	0.1513	0.65
WORK5	-0.5964*	-2.78	-0.3071*	-2.60	0.8214*	3.13	0.1179	0.72	0.1364	0.34	0.4530*	1.97
H.S. SATIS1	0.7219*	3.33	0.0855	0.66	-0.3166	-1.19	-0.0984	-0.53	-0.2727	-0.64	0.0031	0.01
H.S. SATIS2	0.4560*	2.49	-0.0775	-0.72	-0.2145	-0.99	0.0384	0.25	-0.1330	-0.40	0.2780	1.31
H.S. PLAN1	-0.3024	-1.68	-0.1807	-1.65	0.2885	1.32	0.0276	0.17	-0.6693	-1.79	0.0149	0.07
H.S. PLAN2	-0.2392	-1.43	-0.2814*	-2.87	-0.0424	-0.20	0.3026*	2.18	-0.1440	-0.47	0.0373	0.19
* Significant at the 0.05 level												
LOG OF LIKELIHOOD FUNCTION:	-695.53		-1856.10		-497.39		-1093.60		-227.20		-632.87	
McFADDEN'S R2:	0.1938		0.1419		0.0756		0.0482		0.1421		0.0345	
LIKELIHOOD RATIO TEST:	334.46		613.95		81.37		110.67		75.25		119.59	
PERCENT CORRECT:	74.0%		71.1%		85.8%		89.4%		95.0%		94.8%	
SENSITIVITY:	85.1%		86.0%		0.0%		0.0%		4.5%		0.0%	
SPECIFICITY:	54.6%		40.6%		85.8%		89.4%		99.8%		100.0%	

enrollment. Variables in the urban sample with a negative impact include high school g.p.a, income greater than $40,000, Asian-American/Oriental race, and mother's college education. Adequate satisfaction with the educational planning assistance provided by the high school had a positive influence on vocational enrollment.

The characteristics of those students who indicated they did not intend to pursue further education following high school are more difficult to identify (Table 2). Among rural and urban students, the only significant explanatory variables are family income and g.p.a.. These variables have a negative impact on students' intentions to not seek further education following high school.

The probabilities (P) and changes in probability (Delta P) of students' educational plans were calculated at the sample mean values (Table 3). As expected, the likelihood of college attendance increases as high school g.p.a increases, for both rural and urban students. Among rural students with a high school g.p.a of 'A', the probability of college attendance is .8650, an increase of .7205 over 'D' and 'F' students, who have only a .1445 likelihood of college attendance. The probability of attendance rises by .5935 for 'B' students and by .3227 for 'C' students. Those 'A' students from the urban area indicate a probability of college attendance of .9097, which is .5424 higher than 'D' or 'F' students. Attendance probabilities for urban 'B' and 'C' students also rise significantly.

The level of mother's education also exhibits a strong positive impact on rural and urban students' intentions to attend college. As the level of family income increases, the probability of college attendance increases as well for both rural and urban students. For students in both geographic regions, working more than 30 hours per week exhibits a

TABLE 3. Probability and Change in Probability of Students' Future Educational Plans

	COLLEGE				VOCATIONAL				NO FURTHER EDUCATION			
	RURAL		URBAN		RURAL		URBAN		RURAL		URBAN	
Variable	P	Delta P	P	Delta P	P	Delta P	P	Delta P	P	Delta P	P	Delta P
RACE1	0.6587	0.0007	0.6554	0.0953	0.0760	-0.0493	0.1199	-0.0257	0.0949	0.0592	0.0446	0.0088
RACE2	0.6580	- -	0.5600	- -	0.1253	- -	0.1455	- -	0.0357	- -	0.0359	- -
RACE3	0.6718	0.0138	0.7081*	0.1480	0.1175	-0.0077	0.0917	-0.0539	0.0313	-0.0045	0.0426	0.0067
RACE4	0.6483	-0.0098	0.7371*	0.1771	0.1316	0.0063	0.0830	-0.0625	0.0438	0.0081	0.0139	-0.0220
RACE5	0.8086	0.1506	0.7815*	0.2214	0.1056	-0.0197	0.0589*	-0.0866	0.0001	-0.0357	0.0099	-0.0260
MALE	0.6432	- -	0.6728	- -	0.6728	- -	0.1348	- -	0.0918	- -	0.0202	- -
FEMALE	0.7029*	0.0594	0.7391*	0.0663	0.1028	-0.0320	0.0924	0.0006	0.0124	-0.0077	0.0245*	-0.0277
INCOME1	0.5551	- -	0.6296	- -	0.1270	- -	0.1120	- -	0.0313	- -	0.0476	- -
INCOME2	0.6959*	0.1409	0.7269*	0.0973	0.1129	-0.0141	0.0988	-0.0133	0.0164	-0.0149	0.0295	-0.0181
INCOME3	0.6736*	0.1186	0.7039*	0.0743	0.1390	0.0120	0.0962	-0.0158	0.0085*	-0.0228	0.0349	-0.0127
INCOME4	0.7511*	0.1960	0.7531*	0.1235	0.0978	-0.0292	0.0748*	-0.0373	0.0151*	-0.0161	0.0316*	-0.0160
MOTHER'S ED1	0.5115	- -	0.5889	- -	0.1826	- -	0.1118	- -	0.0196	- -	0.0459	- -
MOTHER'S ED2	0.6190*	0.1075	0.6590*	0.0701	0.1480	-0.0346	0.0953	-0.0165	0.0237	0.0041	0.0408	-0.0051
MOTHER'S ED3	0.7208*	0.2093	0.7360*	0.1471	0.1118*	-0.0708	0.0933	-0.0185	0.0101	-0.0095	0.0321	-0.0138
MOTHER'S ED4	0.7692*	0.2577	0.8129*	0.2240	0.0627*	-0.1199	0.0727*	-0.0392	0.0137	-0.0059	0.0272	-0.0188
GPA1	0.8650*	0.7205	0.9097*	0.5424	0.0621	-0.0225	0.0403*	-0.1202	0.0079*	-0.0842	0.0113*	-0.1016
GPA2	0.7380*	0.5935	0.7471*	0.3798	0.1135	0.0289	0.0848*	-0.0757	0.0133*	-0.0789	0.0336*	-0.0793
GPA3	0.4672*	0.3227	0.5336*	0.1663	0.1790	0.0944	0.1364	-0.0241	0.0258*	-0.0663	0.0570*	-0.0558
GPA4	0.1445	- -	0.3673	- -	0.0846	- -	0.1605	- -	0.0922	- -	0.1129	- -
WORK1	0.7062	- -	0.7052	- -	0.0827	- -	0.0965	- -	0.0179	- -	0.0328	- -
WORK2	0.6528	-0.0534	0.6697	-0.0356	0.1290	0.0463	0.1021	0.0056	0.0344	0.0166	0.0422	0.0093
WORK3	0.7180	0.0117	0.7623*	0.0571	0.1247	0.0420	0.0861	-0.0103	0.0121	-0.0058	0.0242	-0.0086
WORK4	0.6322	-0.0740	0.7211	0.0158	0.1342*	0.0515	0.0812	-0.0153	0.0118	-0.0061	0.0380	0.0052
WORK5	0.5697*	-0.1365	0.6377*	-0.0676	0.1701*	0.0874	0.1072	0.0108	0.0204	0.0026	0.0507*	0.0179
H.S. SATIS1	0.7285*	0.1626	0.7282	0.0172	0.1073	-0.0343	0.0847	-0.0079	0.0141	-0.0043	0.0310	0.0001
H.S. SATIS2	0.6728*	0.1070	0.6947	-0.0162	0.1175	-0.0241	0.0959	0.0033	0.0162	-0.0023	0.0404	0.0095
H.S. SATIS3	0.5659	- -	0.7109	- -	0.1416	- -	0.0927	- -	0.0185	- -	0.0309	- -
H.S. PLAN1	0.6497	-0.0654	0.7041	-0.0362	0.1420	0.0317	0.0839	0.0021	0.0108	-0.0101	0.0356	0.0005
H.S. PLAN2	0.6639	-0.0511	0.6827*	-0.0576	0.1062	-0.0041	0.1076*	0.0258	0.0182	-0.0028	0.0363	0.0013
H.S. PLAN3	0.7151	- -	0.7403	- -	0.1103	- -	0.0818	- -	0.0210	- -	0.0351	- -

P = Probability of students' plans
Delta P = Change in probability
* Significant at the 0.05 level

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negative impact on student intentions to attend college, decreasing the probability of attendance by .1365 for rural students and by .0676 for urban students. Seniors from rural areas who were more than adequately satisfied with their high school experience are more likely to plan to attend college than those who were less than adequately satisfied. In the urban area, students who were less than adequately satisfied with the educational planning assistance provided by their high school intend to enroll in college at a higher rate than those who were satisfied, however.

The likelihood of rural student vocational enrollment decreases as the level of mother's education increases. In the rural area, the probability of vocational attendance is decreased by .1199 if the student's mother is a college graduate. In addition, those who worked more than 21 hours per week are more likely to intend to enroll in a vocational program than those who worked fewer hours. Among urban students, the probability of vocational enrollment decreases for students with high g.p.a, well-educated mothers, and higher family income.

Urban and rural students with lower g.p.a. and lower levels of family income are less likely to plan to continue their education beyond high school. For example, the likelihood of urban students with an 'A' high school g.p.a. not seeking further education is .0113, a decrease from the .1129 probability for 'D' and 'F' students. In the urban area, males are less likely to plan to continue their education after high school than females.

Finally, in-sample evaluations of the predictive power of the estimated logit models (based on a 50-50 classification scheme) are analyzed to provide another measure of the models' goodness of fit (Goodwin, 1990). The rural college model correctly classifies 74%

of the responses (Table 2). The sensitivity of the logit model (actual positive responses correctly predicted as positive) is 85.1%, and the specificity (actual negative responses correctly predicted as negative) is 54.6%. For the urban college model, 71.1% of the responses were correctly predicted, with a sensitivity of 86% and specificity of 40.6%. Thus, both urban and rural logit models are relatively accurate in predicting students' college enrollment choices.

The vocational models correctly classify 85.8% of rural responses and 89.4% of urban responses. Neither geographic area model predicted positive responses (sensitivity = 0), however. The logit models of students planning no further education correctly predicted 95.0% of rural responses and 94.8% of urban responses. Once again, neither geographic model was accurate in classifying positive responses. The vocational and no intent models very accurately predict students' negative intentions, reflecting the negative impact of the significant explanatory variables. Because no significant and positive explanatory variables were identified, however, these models do not predict positive responses.

CONCLUSIONS

In general, the logit models developed provide a good basis for identifying variables that predict students' intentions to attend college. As expected, both from the literature and from our own observations, students are more likely to intend to enroll in college as family income levels increase, as students' high school grade point averages increase, and as mothers' level of education increase. Students' gender and work experience also proved to be significant. Students' race, in most cases, was not significant and students' level of satisfaction with high school experiences, while significant, produced various results

depending on geographic region. While seeking vocational education, or not seeking further education, can be viewed as possible alternative decisions to attending college, the logit models do not predict these latter two behaviors to the same degree that they predict college-going behavior. Use of nested multinomial logit models may more accurately identify characteristics of vocational students or those who do not intend to seek further education.

The findings of this study have several implications, both for further studies and for higher education planning in Nevada. First, the study supports the use of the current high school survey and its data as a good planning tool for projecting future college enrollments of Nevada high school seniors. However, additional data are needed to more accurately identify those characteristics which influence students' intentions to enroll in vocational programs or not to pursue further education. In short, we do not know as much about the students who do not intend to enroll in college as we do about those students who do intend to enroll. This information is important for both the UNS and the campuses in developing intervention strategies to increase the college-going rate in the state.

The study findings also reveal that geographic location of students is significant in predicting behavior and therefore may also be significant in developing intervention strategies. To date, survey results have been reported on a statewide basis and planning decisions have been made on that same basis. It is now clear that the impact of various factors may not be the same for both urban and rural students, and further studies will need to consider this issue.

Finally, the findings suggest a possible disturbing and counterproductive trend for the state's future population and workforce. Much of Nevada's population growth is fueled by

the growth of employment in the state's low-paying service sector. At the same time, Nevada is attempting to diversify its economy and to attract other industries that would provide higher paying jobs and would demand employees with higher levels of education. These targeted industries are attracted to locations with a large and trained workforce.

If, as our study suggests, college-going intentions are influenced by level of family income and by parents' (mothers') education level, the state may find itself with increasing numbers of students with no intention to further their education. Many of these students can and will be absorbed in the dominant service-oriented industries of the state. However, this may adversely impact the success of state economic diversification efforts. Consideration of this scenario underscores the importance of linking students' postsecondary intentions and the factors that influence those intentions with other kinds of state planning efforts. It also underscores the importance of appropriate intervention strategies that attempt to influence students' postsecondary education plans.

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